

REMARKS

The Office Action dated February 19, 2010 has been reviewed and carefully considered. Claim 1 has been amended to depend from claim 17 and new dependent claims 18-20 have been added. Accordingly claims 1 and 4-20 are now pending, the independent claims being claims 15 and 17. Reconsideration of the above-identified application, as amended and in view of the following remarks, is respectfully requested.

Applicants note with appreciation the indication that Claims 5-9 would be allowable if rewritten so as not to depend from a rejected claim, and with no change in scope. These claims have not been so rewritten because, for the reasons given below, their base claim is believed to be allowable.

Amendments:

With respect to the claim amendments herein, applicants wish to note the following. Claim 17 has been amended to replace "integrated circuit" with "processing circuitry." This processing circuitry is defined in original claim 1 as part of the display device and described in the specification with respect to Fig. 1 and the accompanying text starting at page 4, line 5. It should be noted that nowhere is it stated with respect to Fig. 1 that the processing circuit P is an integrated circuit.

The feature a predetermined brightness level being a fixed or adjustable level determined in dependence on the dimmed brightness level has been added to independent claims 15 and 17. Support for this feature can be found, *inter alia*, at page 2, lines 31-34.

In each of independent claims 15 and 17, the word “level” has been added to the phrase “a number of occurrences of a gray level corresponding to a brightness level of display pixels above the dimmed brightness level.” In this manner it is emphasized that it is the brightness level to which the gray level corresponds. Support for this feature is found at Page 2, line 25 in conjunction with page 2, line 26. In line 26 it is disclosed that it is the brightness level of the display pixels instead of the brightness of the display pixels.

Further, as noted above, claims 18-20 have been added to the application. Claims 19 and 20 represent features formerly found in claims 1 and 15, respectively that are now merely being claimed in separate dependent claims.

Arguments:

Claims 1-4, 10, 11 and 14-17 stand rejected under 35 USC 103(a) as being unpatentable over Park, U.S. Pat. Publ. No. 2002/0130830 (hereinafter, “Park”). Claims 12 and 13 stand rejected under 35 USC 103(a) as being unpatentable over Park in view of Usul et al (EP 0513551).

Applicants respectfully disagree with, and explicitly traverse, the Examiner's reason for rejecting the claims.

Park discloses in paragraph [000] an LCD with an adaptive luminance intensifying function for modifying the luminance of a back light according to images

provided. According to paragraph [0031] – [0035], the data determiner checks a gray level of the input R image data. A first counter counts the number of high gray level R data and a second counter counts the number of low gray level R data. If the number of high gray levels is higher than the number of low gray levels, a high driving voltage is supplied to the backlight inverter. If the number of high gray levels is lower than the number of low gray levels, a normal driving voltage is supplied to the backlight inverter.

In paragraph [0036] Park discloses that low gray data is converted into lower gray data if the high (“normal” is erroneously disclosed) driving voltage is supplied so as to compensate of the increase of the backlight.

It has to be noted that Park counts the number of high gray levels and the number of low gray levels. While both high and low are not explicitly defined, it is clearly not disclosed that these levels depend on the selected luminance of the backlight. The backlight is switched between normal and high luminance dependent on which number of the gray levels is the highest.

Claim 17, as amended, recites:

17. Processing circuitry having:

- an input for receiving an input signal representing gray levels of pixels of an image to be displayed on a display panel of a display device, the display device comprising an adjustable light source, the display panel having display pixels for modulating light originating from the light source;
- outputs for coupling to the display panel and the light source;

- means for selecting a dimmed brightness level of the light source in dependence on the gray levels of the image pixels, the means for selecting being adapted to:
 - select the dimmed brightness level in dependence on: (i) a number of occurrences of a gray level corresponding to a brightness level of display pixels above the dimmed brightness level, or (ii) a number of occurrences of a gray level corresponding to a brightness level of display pixels below a predetermined brightness level being a fixed or adjustable level determined in dependence on the dimmed brightness level, and
- means for adapting the input signal in dependence on the dimmed brightness level.

The “first part” of the “or” construction above defines a dimming of the backlight to a particular brightness. This particular brightness is called the dimmed brightness level and is selected in dependence on a number of gray levels above the dimmed brightness. This clearly differs from the teachings of Park wherein numbers of high and low gray data are compared and the dimmed brightness is not used.

The second part of the “or” construction of amended claim 17 defines that the dimmed brightness level is selected in dependence on the number of gray levels below a fixed or adjustable level determined in dependence on the number of gray levels below a fixed or adjustable level determined in dependence on the dimmed brightness level. This feature of claim 17 is also patentable over Park because Park does not disclose that the low or high gray level depends on the dimmed brightness level of the backlight.

Applicants submit that Park neither teaches nor suggests these features of claim 17. The Nitta reference fails to cure these infirmities as Nitta also fails to teach or suggest determining the number of occurrences as recited in claim 17. Accordingly, claim 17 is deemed patentable over the combination of Park and Nitta. Independent claim 15 contains features similar to those of claim 17 and is deemed patentable for at least the same reasons.

With regard to claims 1, 4-14 and 16 and 18-20, these claims ultimately depend from one of the independent claims, which have been shown to be not anticipated and allowable in view of the cited references. Accordingly, claims 1, 4-14 and 16 and 18-20 are also allowable by virtue of their dependence from an allowable base claim.

In particular with respect to claims 19 and 20, whose features were formerly found in claims 1 and 15, respectively, applicants submit that the combined teachings of Park and Nitta fail to properly address these features. As acknowledged at page 3 of the Office Action, Park fails to teach substantially minimizing an error function including one or more weighted numbers of occurrences formed by multiplying each of the one or more numbers of occurrences by a weighting factor. The examiner points to Fig. 6C of Nitta as teaching this feature. Fig. 6C merely represents results obtained by changing set data of Nitta's driving circuit. Applicants submit that Fig. 6C fails to address the recited features of claims 19 and 20 wherein an error function is minimized using weighed numbers of occurrences (in particular where those numbers of occurrences are defined as in claims 17 and 15, respectively)

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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